

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/002394

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, EMBASE, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99/46403 A (BRACCO LAURENT ; TOCQUE BRUNO (FR); EXONHIT THERAPEUTICS S A (FR); SCH) 16 September 1999 (1999-09-16) the whole document	1,2, 4-16, 18-29, 34
Y	WO 99/43710 A (BECKMAN COULTER INC) 2 September 1999 (1999-09-02) the whole document	1,2, 4-16, 18-29, 34
A	WO 99/37811 A (AN GANG ; UROCOR INC (US); VELTRI ROBERT W (US)) 29 July 1999 (1999-07-29) the whole document	1,2, 4-16, 18-29, 34

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *&* document member of the same patent family

Date of the actual completion of the international search

30 November 2004

Date of mailing of the international search report

01.03.2005

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/002394

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00/77258 A (CORDON CARDO CARLOS ; SLOAN KETTERING INST CANCER (US); KOFF ANDREW (U) 21 December 2000 (2000-12-21) the whole document	1
A	SU SAI L ET AL: "Alternatively spliced variants of prostate-specific membrane antigen RNA: Ratio of expression as a potential measurement of progression" CANCER RESEARCH, AMERICAN ASSOCIATION FOR CANCER RESEARCH, BALTIMORE, MD, US, vol. 55, no. 7, 1995, pages 1441-1443, XP002137210 ISSN: 0008-5472 the whole document	1
A	DATABASE EMBL 'Online!' 31 May 2001 (2001-05-31), "Sequence 461 from Patent WO0134802." XP002308123 retrieved from EBI accession no. EM_PRO:AX140971 Database accession no. AX140971 the whole document	1
A	WO 01/34802 A (HARLOCKER SUSAN L ; CORIXA CORP (US); DAY CRAIG H (US); JIANG YUQIU (U) 17 May 2001 (2001-05-17) claims	1
A	COROMINOLA H ET AL: "Identification of novel genes differentially expressed in omental fat of obese subjects and obese type 2 diabetic patients" DIABETES, NEW YORK, NY, US, vol. 50, no. 12, December 2001 (2001-12), pages 2822-2830, XP002293068 ISSN: 0012-1797 p. 2826-2827, chapter "Confirmation..."table 4	19,24

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/002394

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9946403	A	16-09-1999	FR 2775984 A1	17-09-1999
			AU 760656 B2	22-05-2003
			AU 2839999 A	27-09-1999
			CA 2323231 A1	16-09-1999
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			WO 9937811 A1	29-07-1999
			AU 746142 B2	18-04-2002
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			CA 2318354 A1	29-07-1999
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			US 2001007748 A1	12-07-2001
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			EP 1208232 A1	29-05-2002
			WO 0077258 A1	21-12-2000
			US 2004053247 A1	18-03-2004
WO 0134802	A	17-05-2001	US 6329505 B1	11-12-2001
			AU 1656501 A	06-06-2001
			AU 6158700 A	30-01-2001
			CA 2378846 A1	18-01-2001
			CA 2391369 A1	17-05-2001
			WO 0104143 A2	18-01-2001
			EP 1194571 A1	10-04-2002
			EP 1230364 A2	14-08-2002
			JP 2003504080 T	04-02-2003
			JP 2004537252 T	16-12-2004
			WO 0134802 A2	17-05-2001
			US 2003088062 A1	08-05-2003
			US 2003157089 A1	21-08-2003
			US 2003185830 A1	02-10-2003
			US 6620922 B1	16-09-2003
			US 6818751 B1	16-11-2004
			US 6759515 B1	06-07-2004
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			US 2002022248 A1	21-02-2002
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			US 2002193296 A1	19-12-2002

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2004/002394

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 3, 17, 29-33
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1, 2, 4-16, 18-28, 34 (all partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,4-16,18-28,34 (all partially)

Isolated nucleic acid sequence having or comprising SEQ ID NO: 1, or variants or fragments thereof as defined in cl. 1, antigen as defined in claim 11 or encoded by a sequence having at least 90% identity with SEQ ID NO: 1 as defined in claims 10, in particular wherein either antigen is labelled, antibodies as defined in claims 12-13,15, kits comprising the DNA of claim 1 or the antibodies of claim 12-13 and methods using either of these reagents or an antisense or ribozyme as defined in claim 20 or an antibody as defined in claim 28.

Inventions 2-176: claims 1,2,4-16,18-28,34 (all partially)

As for invention 1, wherein the nucleic acid sequence is defined by SEQ ID NOs: 1-173, 175, 177, 179 and 181 and the polypeptide sequences are defined by those encoded by the said sequences and/or by SEQ ID NOs: 172, 174, 176, 178,180 and 182-185.

The description provides conflicting indications as to these sequences: p. 52, l. 25 ff. seems to indicate that e.g. SEQ ID NO: 173 codes for SEQ ID NO. 183 whereas table 1 would appear to indicate that SEQ ID NO. 173 encodes SEQ ID NO. 174.

Should the Applicant pay additional search fees, a clear indication as to the sequences covered by the invention to be searched should be provided.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 3,17,29-33

1) Claim 3 only relates to primers defined by their capability of specifically amplifying one of the sequences to which claim 1 relates, i.e. SEQ ID NOs: 1-173, 175, 177, 179, 181. However, this sole feature does not allow the definition of the structural features of the claimed primers because, absent any definition of the sequence from which the primers have to derive, the primer allowing a "specific amplification" of the sequences could be located anywhere, provided they bracket the sequence to be amplified. Claim 3 lacks thus clarity (Art. 6 PCT) to such an extent as to render a meaningful search over its whole scope impossible. Moreover, in view of the absence of any indication in the description which could help define the sequence of the claimed primers, no search at all is possible with respect to the subject-matter of claim 3. The same applies to claim 17 dependent thereon.

2) Independent claims 19 and 24 relate to methods for treating prostate cancer comprising the administration of a ligand, this ligand is only defined in that it binds a protein or a gene or an RNA as defined in the said claims. This sole functional feature, however, is not associated to any defined structural feature of the ligand to be used. The skilled person, therefore, cannot understand which compounds fall or not within the scope of the claim. Moreover, even known compounds already used for this treatment could fall within the scope of the claims. The claim lacks thus clarity (Art. 6 PCT) to such an extent as to render a meaningful search over their whole scope impossible. The search with respect to these claims, and to the claims dependent thereon, was thus limited to the ligand being ribozyme or antisense (see cl. 20) binding to the gene/RNA defined by SEQ ID NO. 1 and antibodies (or antigen-binding fragments thereof) binding to the protein encoded by SEQ ID NO: 1 (see cl. 28).

In view of these arguments, claims 29-31 have not been searched.

3) Claim 32 relates to a polypeptide comprising the extracellular domain of a protein whose encoding sequence comprises SEQ ID NOs: 1-185. This sole functional feature, however, does not allow the identification of any specific polypeptide to which the claim should relate. A complete meaningful search with respect to the subject-matter of this claim is therefore not possible. Moreover, the description is silent as to the actual sequence of any such polypeptide. Therefore, claim 32 and claim 33 dependent thereon have neither been taken into account for the definition of the inventions to which the claims relate nor have or will be searched.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2004/002394

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material



a sequence listing



table(s) related to the sequence listing

b. format of material



in written format



in computer readable form

c. time of filing/furnishing



contained in the international application as filed



filed together with the international application in computer readable form



furnished subsequently to this Authority for the purpose of search

2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.